

**UTAH DIVISION OF AIR QUALITY**  
**SOURCE PLAN REVIEW**

George Cross  
Intermountain Power Service Corporation  
850 West Brush Wellman Rd  
Delta, UT 846249522

Project Number: N0103270022

RE: Minor Modification to Replace Cooling Towers at the ICS  
Millard County; CDS A; Attainment Area, NSPS (Part  
60), Title IV (Part 72 / Acid Rain), Title V (Part 70) Major  
source

Review Engineer: John Jenks  
Date: September 1, 2010

Notice of Intent Submitted: July 15, 2010

Plant Contact: George Cross  
Phone Number: (801) 864-4414  
Fax Number: (801) 864-4970

Source Location: 850 West Brush Wellman Road, Delta, UT  
Millard County  
4,374,400 m Northing, 364,200 m Easting, UTM Zone 12  
UTM Datum: NAD27

DAQ requests that a company/corporation official read the attached draft/proposed Plan Review with Recommended Approval Order Conditions. If this person does not understand or does not agree with the conditions, the review engineer should be contacted within five days after receipt of the Plan Review. If this person agrees with the Plan Review and Recommended Approval Order Conditions, this person should sign below and return (FAX # 801-536-4099) within 10 days after receipt of the conditions. If the review engineer is not contacted within 10 days, the review engineer shall assume that the company/corporation official agrees with this Plan Review and will process the Plan Review towards final approval. A public comment period will be required before the Approval Order can be issued.

Applicant Contact \_\_\_\_\_

*(Signature & Date)*

**OPTIONAL:** In order for this Source Plan Review and associated Approval Order conditions to be administratively included in your Operating Permit (Application), the Responsible Official as defined in R307-415-3, must sign the statement below and the signature above is not necessary. THIS IS STRICTLY OPTIONAL!

If you do not desire this Plan Review to be administratively included in your Operating Permit (Application), only the Applicant Contact signature above is required. Failure to have the Responsible Official sign below will not delay the Approval Order, but will require a separate update to your Operating Permit Application or a request for modification of your Operating Permit, signed by the Responsible Official, in accordance with R307-415-5a through 5e or R307-415-7a through 7i.

**“Based on reasonable inquiry, I certify that the information provided for this Approval Order has been true, accurate and complete and request that this Approval Order be administratively amended to the Operating Permit (Application).”**

Responsible Official \_\_\_\_\_  
(Signature & Date)

Print Name of Responsible Official \_\_\_\_\_

## ABSTRACT

Intermountain Power Service Corporation (IPSC) operates the Intermountain Generating Station (IGS) coal fired steam-electric plant, consisting of two 950 MW units located near Delta in Millard County. Co-located at the plant site is the Intermountain Converter Station (ICS) that serves as a combination switchyard and AC to DC converter supplying power along the Southern Transmission System. IPSC is replacing six (6) existing cooling towers with eight (8) new cooling towers. The new towers have better heat rejection efficiencies with lower flow capacities, requiring less total flow. Emissions from the new cooling towers are not expected to increase as a result of this equipment replacement. The IGS is operated under a Title V permit (#2700010003) and initially included the ICS cooling towers as a potential emission unit with the original Title V application in 1997. The ICS cooling towers were excluded from the Title V permit as a minor activity. In the interest of clarity, IPSC has elected to reinstate the new cooling towers in their approved equipment list. No other changes are included as a part of this modification.

## SOURCE SPECIFIC DESIGNATIONS

### Applicable Programs:

Attainment Area, Subpart (No subparts) applies to Electric Plant  
 NSPS (Part 60), Subpart A: General Provisions applies to Electric Plant  
 NSPS (Part 60), Subpart Da: Elec Util Steam Boiler After 9/18/78 applies to Unit #1 Coal Fired Boiler  
 NSPS (Part 60), Subpart Da: Elec Util Steam Boiler After 9/18/78 applies to Unit #2 Coal Fired Boiler  
 NSPS (Part 60), Subpart Y: Coal Preparation Plants applies to Electric Plant  
 Title IV (Part 72 / Acid Rain), Subpart (No subparts) applies to Electric Plant  
 Title V (Part 70) Major source, Subpart (No subparts) applies to Electric Plant

### Permit History:

When issued, the approval order shall supersede or will be based on the following documents:

Is Derived From	NOI dated July 15, 2010
Supersedes	DAQE-AN0103270019-09 dated June 15, 2009

## SUMMARY OF NOTICE OF INTENT INFORMATION

### Description of Proposal:

Changes: Co-located at the plant site is the Intermountain Converter Station (ICS) that serves as a combination switchyard and AC to DC converter supplying power along the Southern Transmission System. IPSC is replacing six (6) existing cooling towers with eight (8) new cooling towers. The new towers have better heat rejection efficiencies with lower flow capacities, requiring less total flow. Emissions from the new cooling towers are not expected to increase as a result of this equipment replacement. The IGS is operated under a Title V permit (#2700010003) and initially included the ICS cooling towers as a potential emission unit with the original Title V application in 1997. The ICS cooling towers were excluded from the Title V permit as a minor activity. In the interest of clarity, IPSC has elected to reinstate the new cooling towers in their approved equipment list. No other changes are included as a part of this modification.

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 Modification to Replace Cooling Towers at the ICS  
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**Summary of Emission Changes and Totals:**

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible. All values given are in tons per year.

**Estimated Criteria Pollutant Potential Emissions**

Carbon Monoxide	11668.00 tons/yr
Lead	0.38 tons/yr
Nitrogen Oxides	37451.00 tons/yr
Particulate Matter - PM <sub>10</sub>	3297.10 tons/yr
Sulfur Dioxide	11315.20 tons/yr
Volatile Organic Compounds	64.10 tons/yr

**Estimated Hazardous Air Pollutant Potential Emissions**

Beryllium (TSP) (CAS #7440417)	0.0090 tons/yr
Generic HAPs (CAS #GHAPS)	18.9000 tons/yr
Hydrochloric Acid (Hydrogen Chloride) (CAS #7647010)	73.9000 tons/yr
Mercury (Organic) (CAS #22967926)	0.3170 tons/yr

Total hazardous air pollutants 93.126 tons/yr

**Review of Best Available Control Technology:**

1. BACT review regarding Electric Plant - BACT Analysis

The new cooling towers are more efficient than the existing equipment, this results in lower liquid flow rates and lower emissions overall. NSR recommends that these new cooling towers be accepted as BACT [Last updated September 1, 2010]

**Modeling Results:**

No modeling is required for this minor modification. [Last updated September 1, 2010]

**RECOMMENDED APPROVAL ORDER CONDITIONS**

The intent is to issue an air quality Approval Order (AO) authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the order. The AO will be issued to and will apply to the following:

**Name of Permittee:**

Intermountain Power Service Corporation  
850 West Brush Wellman Rd  
Delta, UT 846249522

**Permitted Location:**

Intermountain Power Service Corporation:  
Intermountain Generation Station  
850 West Brush Wellman Road  
Delta, UT 84624-9546

UTM coordinates: 364,200 m Easting, 4,374,400 m Northing, UTM Zone 12  
SIC code: 4911 (Electric Services)

**Section I: GENERAL PROVISIONS**

- I.1 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
- I.2 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
- I.3 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five (5) years. [R307-401]. [R307-415-6b]
- I.4 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
- I.5 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]
- I.6 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]
- I.7 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

**Section II: SPECIAL PROVISIONS**

- II.A The approved installations shall consist of the following equipment:**
- II.A.1 **Electric Plant**  
Source Wide
  - II.A.2 **Unit #1 Coal Fired Boiler**  
Equipped with low NO<sub>x</sub> burners with a maximum heat input of 248 MMBtu/hr per burner.  
Rating - 9,225,000,000 MMBtu/hr
  - II.A.3 **Unit #2 Coal Fired Boiler**  
Equipped with low NO<sub>x</sub> burners with a maximum heat input of 248 MMBtu/hr per burner.  
Rating - 9,225,000,000 MMBtu/hr
  - II.A.4 **#1A Boiler**  
Auxiliary boiler rated at 166 MMBtu/hr
  - II.A.5 **#1B Boiler**  
Auxiliary boiler rated at 166 MMBtu/hr
  - II.A.6 **Over-Fire Air-Port System**  
Boiler #1 & #2 over-fire air-ports system, 16 per boiler
  - II.A.7 **#1A Cooling Tower**  
Unit 1 cooling tower
  - II.A.8 **#1B Cooling Tower**  
Unit 1 cooling tower
  - II.A.9 **#1A Cooling Tower**  
Unit 2 cooling tower
  - II.A.10 **#1B Cooling Tower**  
Unit 2 cooling tower
  - II.A.11 **Two Helper Cooling Towers**
  - II.A.12 **#1A Generator**  
Emergency generator, rated at 4,000 hp
  - II.A.13 **#1B Generator**  
Emergency generator, rated at 4,000 hp
  - II.A.14 **#1C Generator**  
Emergency generator, rated at 4,000 hp
  - II.A.15 **#1B Generator**  
Diesel driven fire pump rated at 290 hp
  - II.A.16 **#1C Generator**  
Diesel driven fire pump rated at 290 hp
  - II.A.17 **Engine Driven Equipment**  
Compressors, generators, hydraulic pumps and diesel fire pumps
  - II.A.18 **#1A Dust Collector**  
Coal railcar unloading dust collector
  - II.A.19 **#1B Dust Collector**  
Coal railcar unloading dust collector
  - II.A.20 **#1C Dust Collector**  
Coal railcar unloading dust collector
  - II.A.21 **#1D Dust Collector**  
Coal railcar unloading dust collector

II.A.22	<b>#2 Coal Dust Collector</b> Coal truck unloading dust collector
II.A.23	<b>#3 Coal Dust Collector</b> Coal reserve reclaim dust collector
II.A.24	<b>#4 Coal Dust Collector</b> Coal transfer building #1 dust collector
II.A.25	<b>#5 Coal Dust Collector</b> Coal transfer building #2 dust collector
II.A.26	<b>#6 Coal Dust Collector</b> Coal transfer building #4 dust collector
II.A.27	<b>#11 Coal Dust Collector</b> Coal crusher building dust collector
II.A.28	<b>#13A Coal Dust Collector</b> U1 Generation building coal dust collector
II.A.29	<b>#13B Coal Dust Collector</b> U1 Generation building coal dust collector
II.A.30	<b>#14A Coal Dust Collector</b> U2 Generation building coal dust collector
II.A.31	<b>#14B Coal Dust Collector</b> U2 Generation building coal dust collector
II.A.32	<b>#1A Limestone Dust Collector</b> Limestone unloading dust collector
II.A.33	<b>#1B Limestone Dust Collector</b> Limestone unloading dust collector
II.A.34	<b>#1 Limestone Dust Collector</b> Limestone transfer dust collector
II.A.35	<b>#2 Limestone Dust Collector</b> Limestone reclaim dust collector
II.A.36	<b>#3 Limestone Dust Collector</b> Limestone crusher dust collector
II.A.37	<b>#4 Limestone Dust Collector</b> Limestone preparation dust collector
II.A.38	<b>#1 Lime Dust Collector</b> Lime silo dust collector
II.A.39	<b>#2 Lime Dust Collector</b> Lime hopper dust collector
II.A.40	<b>#3 Soda Ash Dust Collector</b> Soda ash silo dust collector
II.A.41	<b>#4 Soda Ash dust Collector</b> Soda ash hopper dust collector
II.A.42	<b>Coal sample preparation building dust collector</b>
II.A.43	<b>Sandblast facility dust collector</b>
II.A.44	<b>Dust Collector</b> U1 Generation building vacuum cleaning dust collector
II.A.45	<b>Dust Collector</b> U2 Generation building vacuum cleaning dust collector



- II.A.46      **Dust Collector**  
U1 Fabric filter vacuum cleaning dust collector
- II.A.47      **Dust Collector**  
U2 Fabric filter vacuum cleaning dust collector
- II.A.48      **Dust Collector**  
GSB vacuum cleaning dust collector
- II.A.49      **Guzzler truck dust collector**
- II.A.50      **Limestone silo bin vent filter**
- II.A.51      **#1A Filter**  
Fly ash silo bin vent filter
- II.A.52      **#1B Filter**  
Fly ash silo bin vent filter
- II.A.53      **Laboratory fume hoods**
- II.A.54      **#1A Tank**  
Fuel oil tank - 675,000 gallons
- II.A.55      **#1B Tank**  
Fuel oil tank - 675,000 gallons
- II.A.56      **Gasoline Tank**  
500 gallons
- II.A.57      **Diesel Tank**  
10,000 gallons
- II.A.58      **Diesel Day Tanks**  
Not to exceed 560 gallons per tank
- II.A.59      **Mobile Oil Storage Tanks**  
Not to exceed 12,000 gallons per tank
- II.A.60      **Turbine Lube Oil Units**  
Not to exceed 40,000 gallons per tank
- II.A.61      **Diesel Tank**  
Underground storage diesel tank - 20,000 gallons
- II.A.62      **Gasoline Tank**  
Underground storage gasoline tank - 6,000 gallons
- II.A.63      **Used Oil Tank**  
10,000 gallons
- II.A.64      **Coal Pile**  
Active and reserve
- II.A.65      **Landfill**  
Class III Industrial Waste Landfill
- II.A.66      **Coal Stackout**
- II.A.67      **Limestone storage pile**
- II.A.68      **Combustion byproducts stackout & stockpile**
- II.A.69      **Combustion byproducts landfill**

- II.A.70      **Solvent Washer**
- II.A.71      **Coal Conveyors**
- II.A.72      **Paint booth/shops**
- II.A.73      **Bulb recycling crusher**
- II.A.74      **Paved Haul Roads**
- II.A.75      **Unpaved Haul Roads**
- II.A.76      **Coal Truck Unloading Grating**
- II.A.77      **ICS Cooling Towers**  
8 cooling towers used at the Intermountain Converter Station and auxiliary equipment

## **II.B      Requirements and Limitations**

### **II.B.1      Intermountain Generating Station**

- II.B.1.a      Visible emissions from the following emission point sources shall not exceed the following values:

- A. All abrasive blasting - 40% opacity (grandfathered equipment)
- B. All other points - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, except for the units equipped with continuous opacity monitoring system, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. [R307-201-3]

- II.B.1.b      The following consumption limit shall not be exceeded: 50,000 barrels of fuel oil consumed per calendar year in the auxiliary boilers.

To determine compliance with this annual limit, the owner/operator shall calculate a total by the January 20th of each year using data from the previous 12 months (ending with December 31). Records of consumption shall be kept for all periods when the auxiliary boilers are in operation. Consumption shall be determined by fuel oil totalizer records. The records of consumption shall be kept on a monthly basis. [R307-401]

- II.B.1.c The owner/operator shall combust only bituminous, subbituminous coals, and synfuel Covol 298-1, as primary fuels and shall only use diesel oil or natural gas during the startups, shutdowns, maintenance, performance tests, upsets and for flame stabilization in the  $9,225 \times 10^6$  Btu/hr boilers. Only No. 2 oil shall be used in  $166 \times 10^6$  Btu/hr boilers. The owner/operator may fuel-blend self-generated used oil with coal at the active coal pile reclaim structure providing that self-generated used oil has not been mixed with hazardous waste. [R307-401]
- II.B.1.d The sulfur content of any fuel oil combusted shall not exceed:
- A. 0.85 lb/MMBtu heat input for fuel oil used in the main boilers.  
B. 0.58 percent by weight for fuel oil combusted in the auxiliary boilers.
- The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of fuel oil shall either be by IPSC's own testing or test reports from the fuel oil marketer. [R307-203]
- II.B.1.e IPSC shall abide by the latest fugitive dust control plan submitted to the Executive Secretary for control of all dust sources associated with the Intermountain Power Generation site.
- Any haul road speeds established in the plan shall be posted. [R307-205]
- II.B.1.f The facility shall abide by all applicable requirements of R307-205 for Fugitive Emission and Fugitive Dust sources. [R307-205]

## II.B.1.g Dust Collectors

Except for times of start-up, shut-down, or malfunction, differential pressure at the indicated emission points, at all times, shall be within the following limits:

Pollutant/Source PM <sub>10</sub>	Differential Pressure Range Across the Dust Collector (Inches of water gage)
(4) Rail car unloading units	0.5 to 12
Transfer building #1	0.5 to 12
Transfer building #2	0.5 to 12
Transfer building #4	0.5 to 12
Crusher building #1	0.5 to 12
Unit one 13A	0.5 to 12
Unit one 13B	0.5 to 12
Unit two 14A	0.5 to 12
Unit two 14B	0.5 to 12
Limestone preparation building	0.5 to 12

If differential pressure is less than 2 inches or greater than 10 inches, work orders will be written to investigate. Dust collector may run in the 0.5 to 2 or 10 to 12 range if reason is known. Intermittent recording of the reading is required on a monthly basis. The instrument shall be calibrated against a primary standard annually. Preventive maintenance shall be done quarterly on each baghouse. [R307-401]

## II.B.1.h Auxiliary Boiler

Except for times of start-up, shut-down, or malfunction emissions to the atmosphere at all times from the indicated emission points shall not exceed the following rates and concentrations:

Pollutant	lb/10E+6 Btu heat input	lbs/hr
PM <sub>10</sub>	0.10	20
SO <sub>2</sub>	0.69	100
NO <sub>x</sub>	0.35	58

Testing shall be done in accordance with the requirements from the most current Title V permit. [R307-401]

II.B.1.h.1 Existing Source Operation: For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

Notification: The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, and stack to be tested. A pretest conference shall be held, if directed by the Executive Secretary.

Sample Location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. Access that meets the standards of the Occupational Safety and Health Administration (OSHA) or the Mine Safety and Health Administration (MSHA) shall be provided.

Volumetric Flow Rate: 40 CFR 60, Appendix A, Method 2, 2F, 2G, 2H, or other testing methods approved by the Executive Secretary.

Carbon Monoxide (CO): 40 CFR 60, Appendix A, Method 10, or other testing method approved by the Executive Secretary.

Nitrogen Oxide (NO<sub>x</sub>): 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing method approved by the Executive Secretary.

PM<sub>10</sub>: 40 CFR 60, Appendix A, Method 5B, or other testing methods approved by the Executive Secretary. [R307-401]

II.B.2 **Unit #1 & Unit #2 Main Boilers**

II.B.2.a IPSC shall use synfuel Covol 298-1 as an alternative fuel in the Unit #1 and #2 Main boilers and shall conduct its operations of the Intermountain Generating Station (IGS) coal fired electric steam plant in accordance with the terms and conditions of this AO, which was written pursuant to IPSC's Notice of Intent submitted to the Division of Air Quality (DAQ) on October 21, 2004, and February 22, 2005. [R307-401]

II.B.2.b The owner/operator shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMs) on the main boiler stacks and SO<sub>2</sub> removal scrubber inlets. The owner/operator shall record the output of the system, for measuring the opacity, SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> emissions. The monitoring system shall comply with all applicable sections of R307-170, UAC; and 40 CFR 60, Appendix B.

All continuous emissions monitoring devices as required in federal regulations and state rules shall be installed and operational prior to placing the affected source in operation.

Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring devices and shall meet minimum frequency of operation requirements as outlined in 40 CFR 60.13 and Section UAC R307-170. [R307-150]

II.B.2.c Unit #1 & Unit #2 Main Boiler Stack

Except for time of start-up, shut-down, malfunction (NO<sub>x</sub> or PM<sub>10</sub> only), or emergency conditions (SO<sub>2</sub> only), emissions to the atmosphere at all times from the indicated emission points shall not exceed the following rates and concentrations:

Pollutant	lb/10E+6 Btu heat input
PM <sub>10</sub>	0.0184*
SO <sub>2</sub>	0.138 ** (lb/10E+6 Btu heat input based on 30-day rolling average)
NO <sub>x</sub>	0.461 ** (lb/10E+6 Btu heat input based on 30-day rolling average)

\* Test once a year. The Executive Secretary may require testing at any time.

\*\* Compliance for NO<sub>x</sub> and SO<sub>2</sub> emissions shall be demonstrated through use of a continuous emissions monitoring system as outlined in Condition II.B.2.b. [R307-401]

## II.B.2.c.1 Calculations for Test Results: Unit #1 &amp; Unit #2 Boiler Stacks

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

Pollutant        lbs/hr (Compliance demonstration)

CO        1320 lb/hr rate (monthly block average)

Combustion flue gas percent O<sub>2</sub> shall be monitored and recorded at least once per 15 minutes at the exit path of each boiler. Measurements are weighted average results collected from several sensors located in each boiler exit flue path. Calibrations shall be maintained within manufacturers recommendations.

Over-Fire Air (OFA) operating condition shall be monitored and recorded at least once per 15 minutes. Monitoring shall include OFA position and status: i.e., No OFA, 1/3 OFA, 2/3 OFA, throttled or open. Operational status is measured by OFA system damper position.

Using the data above and this formula, CO concentration (ppmvd) shall be calculated and averaged hourly, except for periods of calibration, maintenance, or malfunction of the instrumentation or data system. For periods of calibration, maintenance, or malfunction of instrumentation or data collection system, missing data shall be back filled following procedures similar to 40 CFR Part 75 Subpart D, and used for compliance determinations.

$$[C_{ppmvd}] = n * (O_2\%)^a$$

Where:

[C<sub>ppmvd</sub>] = concentration of CO in parts per million volume dry

n = curve specific factor obtained from the table below

O<sub>2</sub>% = percent O<sub>2</sub> measured at the boiler stack exit

a = curve specific exponent obtained from the table below

Values for n and a factors:

	n	a
No. OFA	47259	-7.6817
1/3 OFA	66265	-7.9824
2/3 OFA (Throttled)	4029.2	-4.0112
2/3 OFA (full open)	1372.4	-3.0919

The hourly mass emission rates in lb per hour shall be calculated using the following formula or any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

$$[C_{lb/hr}] = [C_{ppmvd}] * 2.59 * 10E-9 * MW * Fd * 20.9/(20.9-O_2\%) * HI$$

Where:

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[C<sub>lb/hr</sub>] = pound per hour emission rate

[C<sub>ppmvd</sub>] = hourly average of CO emissions in parts per million

2.59\*10E-9 = conversion factor for pound per standard cubic feet

MW = molecular weight of CO

Fd = F factor to convert standard cubic feet per million Btu heat input.

O<sub>2</sub>% = hourly average of excess combustion oxygen, in percent

**II.B.3      Engine Driven Equipment**

- II.B.3.a      Emergency generators shall be used for routine maintenance and electricity producing operation only during the periods when regular electric power supply is interrupted, except for routine engine maintenance and testing. Records documenting generator usage shall be kept in a log and shall show the date the generator was used, the duration in hours of generator usage, and the reason for each usage. [R307-401]
- II.B.3.b      The diesel driven fire pumps shall be operated on an emergency basis only, except for routine engine and fire system maintenance and testing. Records documenting diesel driven fire pump usage shall be kept in a log and shall show the date the diesel driven fire pump was used, the duration in hours of use, and the reason for each usage. [R307-401]

**Section III: APPLICABLE FEDERAL REQUIREMENTS**

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

NSPS (Part 60), A: General Provisions  
Title IV (Part 72 / Acid Rain), (No subparts)  
NSPS (Part 60), Da: Elec Util Steam Boiler After 9/18/78  
NSPS (Part 60), Y: Coal Preparation Plants

**REVIEWER COMMENTS**

The AO will be based on the following documents:

Is Derived From	NOI dated July 15, 2010
Supersedes	DAQE-AN0103270019-09 dated June 15, 2009



### ACRONYMS

The following lists commonly used acronyms and their associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive Dust Control Plan
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
MMBTU/hr	Million British Thermal Units per hour (heat input rate)
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO <sub>x</sub>	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO <sub>2</sub>	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds